A REVIEW OF *PURDIEANTHUS* AND *LEHMANNIELLA*, TWO ENDEMIC COLOMBIAN GENERA OF GENTIANACEAE, AND BIOGRAPHICAL NOTES ON PURDIE AND LEHMANN

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The genus *Lisianthus* as construed by A. H. R. Grisebach in 1839 comprised five sections, as follows: *Macrocarpaea, Choriophyllum, Chelonanthus, Helia,* and *Calolisianthus*. The same sectional treatment of the inclusive genus *Lisianthus* was maintained in his contribution to De Candolle's *Prodromus* (1845). Of the five sections recognized by Grisebach *Macrocarpaea* is the best defined morphologically: it, as a genus, is the subject of a monographic revision soon to appear in the Contributions of the United States National Herbarium. The disposition of the Peruvian Section *Choriophyllum* (monotypic) has not been determined, pending an examination of the type of *Lisianthus loranthoides* in England, but it is likely referable to *Symbolanthus*. Section *Calolisianthus,* when redefined in the light of present knowledge, has clear limits. Sections *Helia* and *Chelonanthus* have never been well defined. Almost completely transitional corolla forms exist among certain species of the two sections, yet there is a strong morphological divergence in the corolla type in this alliance, either toward an open ample tube, or a slender variously gibbous or constricted tube.

The group of small Andean genera under review here belong to the *Helia-Chelonanthus* alliance. Both *Purdieanthus* and *Lehmanniella,* and the related genus *Lagenanthus,* are all set apart from other lisianthoid species, however, by strongly developed characters of flower and habit. All three monotypic genera are woody vines or shrubs. Though a recension of the old inclusive genus *Lisianthus* cannot be undertaken at this time, the two Colombian genera and their relationships to the Colombian-Venezuelan genus *Lagenanthus* may be redefined now. *Lagenanthus* will be reported upon later.

KEY TO THE SHRUBBY COLOMBIAN GENERA OF GENTIANACEAE RELATED TO *Lisianthus, sensu strictu*

Stamens and style included; flowers solitary or in a few-flowered corymb; corolla large, 10-14 cm. long, very showy, the tube abruptly constricted below the small throat, the limb nearly obsolete.................. *Lagenanthus*

Stamens and/or style exserted; flowers in few- to several-flowered umbels or rarely in corymbs; corolla smaller, less than 5 cm. long, the tube only a little constricted below the proportionately ample limb

Stigma lobes linear, not dilated, 0.5 mm. wide, not distinctly differentiated from the style; pedicels often 2 cm. long or more, usually without bracteoles; leaves wholly glabrous........................ *Lehmanniella*

Stigma lobes oval, spatulate-dilated, 1.0 mm. wide, distinct from style; pedicels usually about 1 cm. long, with a pair of bracteoles near the base; leaves thinly pubescent beneath near the base along the principal nerves.. *Purdieanthus*

In the course of this study material has been studied from the herbaria of the United States National Arboretum (USNA), though not all of the collections brought back by the Colombian Cinchona Mission of the Foreign Economic Administration have been available for study, the Gray Herbarium (GH), and selected unicates from Herbario Nacional Colombiano, Bogotá (COL), but the largest series of collections studied may be found in the United States National Herbarium (US). To all of the curators who have made this material available, my thanks are tendered. To Dr. Armando Dugand and E. P. Killip I am indebted for certain biographical facts about Purdie and Lehmann and their itineraries in Colombia. I am grateful to Dr. F. R. Fosberg for facilitating my work with the collections assembled by the Colombian Cinchona Mission. This study was essentially completed during the summer of 1947 with a grant from the Smithsonian Institution.

TAXONOMY

Lehmanniella Gilg. in Engl. & Prantl, Pflanzenfam. 4 Abt. 2: 101. 1895.

Long-stemmed scandent or subscandent shrubs, branching only near the base, the stems slender, terete or faintly quadrangular, not at all nodose, sparingly or only distantly leafy up to the inflorescence; leaves varying from short-ovate and more or less abruptly acute to ovate or lanceolate, long-acuminate to at times a subcaudate tip, entire, plane, the veins evident, the secondaries in two principal pairs, one pair subbasal, the other about median, all ascending in submarginal curves, all the leaves distinctly petiolate; flowers generally 3-6 (rarely 2) in terminal as well as sometimes axillary in sessile umbels (rarely a 3-4 flowered loose panicle) all long-pedicellate, scarlet; calyx cylindric or narrowly oblong, rather firm-cartilaginous, the lobes subequal, plane, provided with 5 crescentic glands on the inside about 1/4 distance above the base; corolla tubular, abruptly constricted at base to a long narrow portion exserted from and much smaller than the calyx, the lobes short, rounded, subequal, hardly spreading, the throat constricted; stamens attached about 1/3 the distance above the base of corolla tube, seated upon distinct podia, included, proterandrous (?); anthers sublinear, mucronate; ovary ovoid, tapering gradually into the style; style slender, exserted, the stigma bifid, not distinct from capillary style; capsule distinctly woody, elongated ovoid, splitting into 2 nearly distinct cartilaginous portions, each spreading in age and by torsion suggesting a parrot's beak exposing the placenta; seeds flattened, quadrate, 0.5 mm. across, the surface finely alveolate, light brown.

Type species, *Lehmanniella splendens* (Hook.) Gilg

Single species.

1. **Lehmanniella splendens** (Hook.) Gilg in Engl. & Prantl, Pflanzenfam. 4 Abt. 2: 99. 1895.

Lisianthus splendens Hook., London Journ. Bot. 6:264. 1847.

Illustrations: Hooker, London Journ. Bot. 6: t. 8. 1847; Ann. Hort. 3:281. 1847; Ch. L [emaire] in Fl. des Serres ser. 1. 4: 349b (text). t. 353. 1848.

Scandent shrubs or vines 2-3 m. high, glabrous throughout; leaves firm, rather thick when fresh but drying membranous, shining, bluish-green or dark green, the blades 5 to 8 or 11 cm. long, 2.5-4 cm.

wide, the petioles 5-12 mm. long; calyx without angles or nerves, 5-6 mm. long, the lobes orbicular, thin-membranous on the margins, incurving in post anthesis, finally the whole calyx indurate and more or less goblet-shaped in capsule, the calyx-lobes flaring; corolla tube a little gibbous or arcuate, 45-50 mm. long, the lobes overlapping, fimbriolate, 4-5 mm. long; capsule 22-25 mm. long.

Type collected on "hills of red clay near Canoas, province of Antioquia, New Grenada [present Colombia], 1846", by William Purdie (type, Kew; isotype, Gray Herb., examined). Canoas, a territory of eastern Antioquia, passed out of existence in 1877 and a portion of it became San Carlos, situated about midway between Medellin and the Magdalena River, in the basin of the Rio Nare. In my opinion the year date "1846" may be an error for 1845 during which year Purdie visited the Rio Nare.

Specimens examined:

Colombia: NORTE DE SANTANDER: "Prov. Ocaña, 6000-8000 ft., *Schlim 540* (Field Mus. photo 10255); región del Sarare, Hoya del río Margua entre Junín y Córdoba, 920-1240 m., 22 Nov. 1941, *Cuatrecasas 13393* (COL); Hoya del Río Cubugón, El Indio, 420-480 m., 13 Nov. 1941, *Cuatrecasas 13105* (US). SANTANDER: Cerro del Páramo, Cerro de Armas, 6200 ft., Landázuri region, 2 July 1944, *Fassett 25432* (USNA); La Victoria, Vetaña, 1200 m., 5 Dec. 1942, *W. C. Steere 7016* (US). ANTIOQUIA: isotype, *Purdie s. n.* (GH); Nariño, basin of Rio Magdalena, highway over Páramo de Sonsón, 1 Jan. 1946, *L. Uribe 1135* (US); dense forests between Alto Grande and San Julián near Santo Domingo, 1000-1500 m., 15 Dec. 1884, *F. C. Lehmann 7928* (Field Mus. photo 10254). CAQUETÁ: Sucre, orillas del Río Hacha, matorrales, 1000 m., Cord. Oriental, 3 April 1941, *Cuatrecasas 9181* (US).

Lehmanniella is remarkable for its wide altitudinal distribution, ranging as it does from 3000 to 8000 feet or from the selva of the Tierra Caliente, through the *matorrales* of the upper rain forest country to the borders of the elfin scrub of the páramos. Yet, it is evidently nowhere frequent, but rather occurs as small colonies of few individuals.

Both the Schlim and Lehmann collections were made the bases of unpublished species of *Lehmanniella* by Gilg, as evidenced by the photographs of the collections in question distributed by the Chicago Museum of Natural History (Field Museum photos nos. 10254 and 10255) bearing the manuscript names. Schlim took his specimenes in the vicinity of Ocaña; Lehmann, very near the original locality of

Purdie in Antioquia. A close study of the collections made by others in these localities fails to indicate any important morphological differences among the specimens of *Lehmanniella* from over its entire range. The smaller short ovate leaves of the Ocaña material collected by Schlim is not a distinctive character of plants from that region, and no other character is evident that cannot be accounted for on developmental grounds or from the age of the flowering specimens.

The isotype Purdie sheet formerly in the Berlin Herbarium and photographed under the Rockefeller Foundation Fund for photographing type specimens (Field Mus. photo 10256), a good match for the sheet in the Gray Herbarium, represents a garden grown plant, since the ticket in Hooker's hand bears the date "1849". This, indeed, may be either the year of the flowering at Kew or the date of communication of the specimen by Hooker.

Purdieanthus Gilg. in Engl. & Prantl, Pflanzenfam. 4 Abt. 2: 99. 1895.

Woody stemmed herbs or branching nodose shrubs, the stems rather stout, nearly quadrate, longitudinally grooved or weakly wing-angled, leafy and freely branching up to the inflorescence; leaves ovate, lance-ovate or shortly lanceolate, acuminate, entire, plane, very slightly revolute at times with a rim-like thickened margin, the veins evident, raised beneath, the secondaries in two principal pairs, one pair subbasal, the other just below the middle, all ascending in long submarginal curves but not reaching the tip, all the leaves distinctly petiolate; flowers 4-6 in an umbel or corymb, all distinctly pedicellate, deep-red; calyx ovoid or short-cylindric, narrowed at the base, more or less furrowed above, especially between the short oblong carinate lobes, the lobes distinctly overlapping; corolla narrowly tubular, gradually constricted at base to a short narrow portion exserted from and much smaller than the calyx, the lobes subequal, short, oblong-rounded, hardly spreading, the throat only a little constricted; stamens attached about 1/4 distance above the base of the corolla tube at the summit of its basal constriction, not seated upon distinct podia, exserted, evidently proterandrous (?); anthers short-linear, with a distinct mucro; ovary narrowly ovoid, tapering gradually into the long style; style capillary above, exserted, the stigma spatulate-dilated into two spreading lobes clearly differentiated from the style; capsule and seeds not seen.

Type species, *Purdieanthus pulcher* (Hook.) Gilg

Single species.

1. **Purdieanthus pulcher** (Hook.) Gilg in Engl. & Prantl, Pflanzenfam. 4 Abt. 2: 100. 1895.

Lisianthus pulcher Hook., Bot. Mag. 75: t. 4424. 1849.

Helia pulchra (Hook.) Kuntze, Rev. Gen. Pl. 2:428. 1891, based on last.

Illustrations: Hooker, Bot. Mag. l. c.; Fl. des Serres ser. 1. 5: t. 441. 1849; Ann. Hort. 5:168. 1850.

Stout upright woody stemmed herbs or shrubs up to over 3 m. high, nearly glabrous throughout; leaves firm, a little succulent but drying thin-membranous, dark green, thinly pubescent along the principal nerves beneath, the blades 7-12 cm. long, 3-5 cm. wide, the petioles generally short, 3-10 mm. long; calyx 5-7 mm. long. becoming truncate in post anthesis, the lobes often revolute, faintly fimbriolate and hyaline-scarious; corolla tube not gibbous, 37-40 mm. long, the lobes not overlapping, acute, deep dark-red, 4-5 mm. long.

Type collected on "Monte del Moro," October 1845, by William Purdie (type, Kew). Based on the few itinerary dates available, it is probable that the type locality is in either the Department of Cundinamarca or Boyacá, though it has not been identified on modern maps.

Specimens examined:

Colombia: CUNDINAMARCA: San Isidro, 2200 m., 7 kilom. s. of Gachalá, temperate forest, 27 May 1944, *Martin L. Grant & F. R. Fosberg 9342* (USNA, COL); Las Cascadas, south side Guavio River, 2120 m., 18 kilom. ne. of Gachalá, temperate forest, 29 October 1944, *Martin L. Grant 10519* (USNA).

Evidently very local and, judging from the absence of specimens in American herbaria, not recollected for nearly a century!

From the genus *Lehmanniella,* which is glabrous throughout, this genus may be distinguished even when sterile by its leaves having a thin pubescence on the under side near the base of the blades.

BOTANICAL EXPLORATIONS OF WILLIAM PURDIE

William Purdie (1817-1857) (1) collected two remarkable species of *Lisianthus,* as they were then named, during his botanical explo-

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1. Only brief paragraph notices have been published concerning Purdie; these are listed most recently in Britten & Boulger, Biogr. Index Brit. & Irish Bot. ed. 2. 250. 1931.

ration in Colombia 1844-1846 (2). Each was described as a new species by William Jackson Hooker, viz., *Lisianthus splendens* Hook. (1847) and *L. pulcher* Hook. (1849). Later each was made the basis of two genera by Ernest Gilg, *Lehmanniella* in 1895 and *Purdieanthus* in 1895.

Born in Scotland in 1817, William Purdie studied botany under William McNab (1780-1848) at the Edinburgh Botanic Garden where McNab was superintendent from 1840 until 1848. It was almost certainly through McNab's interest in Purdie that W. J. Hooker of the Royal Botanic Gardens, Kew, decided to send Purdie to Jamaica in May, 1843. Purdie's journal of his botanical activities in Jamaica was published in the Journal of Botany for the years 1844-1845. Accordingly, this phase of Purdie's life is the most fully documented insofar as the published record is concerned; the Colombian phases of his later life have been very briefly noted. It may have been upon the suggestion of Jean Jules Linden (1817-1898) (3), who was in Jamaica at that time, that Purdie undertook his important pioneer explorations in the Sierra Nevada de Santa Marta of Colombia. In any event Purdie collected in the Sierra Nevada during May, June and July, 1844, and though he did not always record locality names for his stations, it is apparent that he either crossed the southwest spur of the mountains from Fundación via San Sebastián de Rábago and the Chinchicuá ridge, where he reached the Temperate Zone, and then descended the Guatapurí Valley to Valledupar (4), or that he followed the trail around the southern base of the mountains from Fundación,

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2. T. G. Yuncker cites a Purdie collection of *Cuscuta grandiflora* without locality as "Colombia: Purdie in 1849" (Mem. Torr. Bot. Club 18: 184. 1932), but I am unable to find any other evidence that Purdie was in Colombia in 1849.
3. There is some evidence that Linden was keenly interested in the Santa Marta region and likely would have undertaken its exploration himself if the opportunity arose. The ornithologist Gould records that he type of the endemic hummingbird, *Simonula floriceps* (Gould), had been received from J. J. Linden of Brussels, and that the bird had been collected by Linden's brother-in-law near the Indian village of San Antonio, in the Sierra Nevada de Santa Marta at 5000 ft. elevation (cf. W. E. C. Todd and M. A. Carriker, Jr., in Ann. Carnegie Mus. 14: 246. 1922).
4. Also spelled Valle de Upar and Valle Dupar. The latter, according to Dugand, is the oldest spelling since the town was named "Ciudad de los Reyes del Valle Dupar" by early Spanish colonists in the sixteenth century (ca. 1550), after Dupar, an Indian chieftain who ruled that part of the Río Cesar Valley. Modern spelling is Valledupar.

via Camperucho and the Rio Cesar Valley, to Valledupar whence he ascended the Guatapurí Valley to Chinchicuá and San Sebastián de Rábago, then retracing his steps to Valledupar. From this town Purdie reached Riohacha on the coast after visiting Villanueva, the slopes of the Sierra Negra east of Villanueva, and a small village called Molino. It is possible that he reversed the itinerary outlined, though I am unable to determine this fact now. Two localities noticed by Dr. Dugand in his studies of Purdie's botanical itineraries have not been located, nor do they appear in the Todd and Carriker account of ornithological collecting stations within the Santa Marta region; these two stations are "Güina" and "Chinocapa".

In September and October of 1844 Purdie followed up his exploration of the Santa Marta Mountains by a journey along their north slope from Riohacha to Antonio (i. e. San Antonio) and San Miguel at 5500 feet elevation, possibly following the usual trail that passes through the village of Dibulla and up the Rio Ancho or Macotama Valley.

The year 1845 was evidently Purdie's most active year in Colombia. There is evidence that he was in Santa Marta in February of 1845 for he wrote a letter from that town to Sir W. J. Hooker — with whom he was more or less in continuous correspondence (5) and to whom he sent seeds — concerning *Phytelephas* (cf. Bot. Voy. Herald, p. 206). Later, in April of the same year (6), Purdie ascended the valley of the Rio Manzanares from Santa Marta, via Mamatoco, Bonda, and Masinga, at least as far as Jiracasaca in the headwaters of the Manzanares just below and north of the San Lorenzo ridge.

In summarizing Purdie's botanical activities Pennell says (1945) that his Santa Marta collections are still our most ample series from this isolated mountain system. Unfortunately Purdie seems never to have numbered his specimens which makes it impossible to trace any particular duplicate collection that may be found in older herbaria or to assemble an itinerary from such numbers, as may be done, for example, with those of another Scotch botanical collector, William Jameson.

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5. No mention of Purdie appears, however, in "Life and Letters of Sir Joseph Dalton Hooker" (1918), the son of W. J. Hooker.

6. This date, reported to me by Dr. Dugand, is based on a Purdie collection of *Tristicha hypnoides* recorded by Tulasne (in Mart. Fl. Bras. 4, pt. 1: 274. 1855) as "Aprili 1845... in scopulis et truncis ripariis rivuli Tira-casaca Novo-Granatensis". Tira-casaca is a misspelling for Jiracasaca.

Purdie evidently began his explorations in northeastern Colombia after the short Manzanares Valley trip, probably in May of 1845. Though as usual his collections carry no numbers to assist in determining the sequence of his collecting stations, he possibly stayed for a time at Riohacha whence he proceeded southward visiting Molino, Villanueva, Espíritusanto (i. e. Codazzi), the Sierra Negra, and then down the Rio Cesar Valley to the lower Magdalena. Later that same year, July 20, 1845, in writing from Ocaña, Purdie says that from the village of Semaña (i. e. Simaña, near La Gloria), on the lower Magdalena, "I entered the mountains by the Paroquia (Parroquia) del Carmen" (i. e. El Carmen, northwest of Convención). At the same time he refers to "Puerto Madonal", which Dr. Dugand suggests may be associated with Puerto Nacional now known as Gamarra. Purdie also refers to his passing "La Laguneta" where *Phytelephas* was collected. He evidently reached Ocaña in July, 1845, and proceeded southward to Pericos, La Cruz (i. e. Abrego), Páramo de Cachirí, Páramo de Santurbán, Pamplona, Tunja, and Bogotá. It was in October, 1845, that he collected the type of *Purdieanthus pulcher* on "Monte del Moro". Neither this locality nor "Páramo de Siejo" have been located. From Bogotá Purdie presumably set out for the north again, visiting Pacho, Muzo, Vélez, Opón (in the upper Opón and Carare valleys), and likely reached the Magdalena River near present-day Puerto Olaya, opposite Puerto Berrío. Proceeding up the Magdalena he passed Quebrada La Colorada and ascended the Rio Nare, pausing at the "Bodegas de Remolino". Joaquín Esguerra O. mentions these warehouses or storage places in 1879 (7) in the following descriptive paragraph: "Remolino: En el Estado de Antioquia: lugar muy caluroso, sombrío i solitario, es un puerto que se abre sobre la marjen izquierda del río Nare, por entre cerros empinados, donde sólo hai una bodega, i de ordinario, concurrencia de peones que se ocupan en conducir sobre sus espaldas las cargas o los viajeros que se dirijen al Estado por el Magdalena, pues los caminos son tan peligrosos, que difícilmente transitan mulas, especialmente en invierno." Purdie must have continued on up the Rio Nare to the "hills of red clay near Canoas", which may be identified, as noted hereinbefore, with San Carlos in the upper Rio Nare Valley. Here he collected the type of the beautiful *Lehmaniella splendens*.

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7. Diccionario Jeográfico de los Estados Unidos de Colombia, p. 193. 1879.

It must have been in late 1845 or early 1846 that Purdie visited the Páramo del Ruiz on the top of the Central Andes, though we have no account of what must have been a difficult and botanically interesting trip. En route to the Páramo del Ruiz he very probably followed the old trail from Honda through Mariquita and Santa Ana. Later he proceeded to the Quindío Mountains via Ambalema and the "Plains of Ibagué".

In March, 1846, Purdie botanized at the "Quebrada de la Honda" and on April 18, 1846, he wrote to W. J. Hooker from Santa Ana "near Honda", announcing his discovery of the staminate flowers of *Phytelephas* (8). Santa Ana, to be identified with Fálan on present-day maps, was formerly the site of silver mines operated by an English company (9) and we may reasonably surmise that Purdie made the mines his headquarters during his explorations of the plains of "Maragusta" (i. e. Mariquita) in April, 1846. Two localities, "Iratcho," mentioned by Hooker (cf. Bot. Mag. t. 4401. 1848) and "Cauvas", have not been located.

Purdie's Colombian explorations were terminated by his appointment in 1846 as the second Government Botanist and Superintendent of Botanic Gardens at Trinidad, to succeed David Lockhart. Purdie served at the old Port-of-Spain gardens adjacent to the Governor's House, opposite the "Savannah," from 1846 until his death in 1857 at the early age of forty years when he was succeeded by Hermann Crueger (10). Occasional Purdie specimens from Trinidad carry collection numbers but these may have been added subsequent to their collection for ease of citation either by Hooker at Kew or by some other recipient or herbarium curator. In fact it is quite likely that they originated with the curator of the Trinidad herbarium, since the John Donnell Smith Herbarium, now incorporated in the United States National Herbarium, contains very numerous sheets with numbers only, suggesting that the data was not transcribed from journals or ledgers at the Royal Botanic Garden Herbarium.

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8. Cf. Bot. Voy. Herald, p. 207.

9. Cf. Esguerra, Diccionario, p. 218. 1879.

10. J. D. Hooker complained of Crueger, though able to write a "splendid paper", — "How I wish he were a better Botanic Gardener — he has been instructed to propagate *Cinchona* in Trinidad and made a regular mess of it. A German scientific man is the most impractical pig in Christendom" (Life and Letters, 2:3. 1918).

During 1851 Purdie visited the interior of Venezuela but I have no information on his Venezuelan journey, and Pittier in his account of Venezuelan collectors adds nothing on this point (Manual de las Plantas Usuales de Venezuela, p. 4. 1926). It is possible that some of the trees growing today in the Royal Botanic Gardens, such as obscure species of *Brownea,* may have been introduced from this Venezuelan journey of Purdie's.

Purdie died at Trinidad on October 14, 1857, without ever returning to Colombia, and there is in the Royal Botanic Garden at Port-of-Spain a cenotaph reading:

THIS STONE ERECTED BY
A FEW FRIENDS WHO KNEW HIS WORK
MARKS THE GRAVE OF
WILLIAM PURDIE
BOTANIST
FOR MANY YEARS
IN CHARGE OF THESE GARDENS
HE DIED 14 OCT. 1857
AGED 40 YEARS

It will be noticed that the date of Purdie's death as recorded on this monument, October 14, 1857, does not agree with that given by such generally reliable sources as Urban (Symb. Antill. 3:107) and Britten and Boulger (Biog. Index Brit. & Irish Bot. ed. 2. 250), namely, October 10, 1857. It is likely that the origin of this discrepancy lies with Pritzel (Thesaurus, ed. 2. 254. 1872) who records Purdie's death as occurring at "St. Ann's (11) Gardens (Trinidad) 10 Oct. 1857."

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11. St. Ann's is mentioned by Charles Kingsley in his "At Last: Christmas in the West Indies" (p. 116. 1871) when he says: "This Paradise [the Royal Botanic Gardens] — for such it is — is somewhat too far from the city, and one passes in it few people save an occasional brown nurse. But when Port-of-Spain becomes, as it surely will, a great commercial city, and the slopes of Laventille, Belmont, and St. Ann's, just above the gardens, are studded, as surely they will be, with the villas of rich merchants, then will the generous gift of English governors be appreciated and used, and the Botanic Gardens will become a Tropic Garden of the Tuileries, alive at five o'clock every evening, with human flowers of every hue."

Botanical explorations of F. C. Lehmann

Frederick Carlos (or Friedrich Karl) Lehmann was born in Platkow, Brandenburg, Germany, on December 27, 1850. I know nothing concerning his education nor the events which lead to his coming to South America at the age of twenty-six. Lehmann first enters our story at Guayaquil, Ecuador, during May and June, 1876, when he collected plants there bearing those dates (12). During the same year he botanized at least as far south from Guayaquil as Loja, but we may presume that it was not until late in 1876 that he entered Colombia at the port of Tumaco, proceeding to Barbacoas by steamboat for at this time Barbacoas on the Patía River was in commercial contact with the Pacific ports of Panama, Ecuador and Peru, and had a population of over 5500 persons. He left Barbacoas and took the old route to Túquerres via Altaquer, proceeding on to Pasto and Popayán. There he entered into commercial business exporting living plants, mainly orchids, and later also served as German consul in Popayán, but the duration of his consular appointment is undetermined. The earliest plant collections in Colombia, according to the copy of his field notes at Kew, of which a copy exists in the United States National Herbarium at Washington, were made in June, 1880. A study of these field notes will supply precise information on Lehmann's itineraries but this collation must be deferred. Evidently Lehmann took the opportunity of his trips for business and consular affairs to advance his botanical reconnaissance of the country but did not communicate at once his materials to Berlin or other European study centers as he might have. Rather, Lehmann assembled a very extensive herbarium, collections from which were later studied by Hieronymus and others. In any event for six years beginning in 1887 Lehmann sold 3369 numbers of dried plants from Central and South America to the British Museum (South Kensington), and he continued his collecting up to the time of his death. He married María Josefa de Mosquera, a grand-daughter of General Tomás Cipriano de Mosquera, who thrice (1861, 1863, and 1866) served as President of Colombia, and intermittently of the states (now depart-

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12. Cf. Diels, L. Beiträge zur Flora und Vegetation von Ecuador. 1937. Also Spanish translation by R. Espinosa, "Contribuciones al conocimiento de la vegetación y de la Flora del Ecuador" Univ. Central, Quito, Ecuador, p. 112. 1938.

ments) of Antioquia and Cauca. On August 13, 1892, Lehmann was awarded the doctorate, *Honoris Causa,* by the University of Frankfort am Mein, Germany. From time to time he contributed short articles to Gartenflora (13) and the Gardener's Chronicle (14). In 1896 he published a folio work on "The Genus Masdevallia" (London, with annotations by Florence A. Woolward). Lehmann died from drowning on November 23, 1903, during a collecting trip in the Rio Timbiquí country, on the Pacific slope of Departamento del Cauca, Colombia. The Rio Timbiquí flows into the Pacific at Timbiquí Bay, about 2º 45' North; this is south of the Micay region. Lehmann's life was thus cut short at the comparatively early age of 53 years, and the loss to Colombian botany was very great for perhaps no other single person has collected so widely over the country with his discernment and thoroughness for more than two decades. Each plant collection of Lehmann's was accompanied by notes on its habitat, size or nature of the plant, color of the flowers, native uses and vernacular names, along with careful attention to a precise wording of its geographic source. Moreover, each collection was given a number and most were taken in sets of five or more duplicates. Diel's lament (15), therefore, over the inadequacy of Lehmann's labels was based on an all too common practice (unfortunately not yet abandoned in some herbaria!) of distributing duplicate specimens with only skeleton locality labels that omit the field data provided by the original collector. It was this kind of skeleton label that accompanied the Lehmann collections in the Berlin Herbarium with which Diels had to work.

After Lehmann's death the first set of his plants was purchased by the Royal Botanic Gardens, Kew, amounting to 7300 numbers, and, according to notes copied from the record of distribution by E. P. Killip, Berlin received the second set (3811 numbers); the British Museum (South Kensington), the third set (3369 numbers); Leningrad, the fourth, and John Donnell Smith, then a private botanical collector living in Baltimore, Maryland, the fifth set. It is this J. Donnell Smith set of Lehmann collections which came by gift to

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13. "Ein Ausflug nach dem Krater des Rucu-Pichincha" Gartenflora 33: 294-300, 325-329, 361-364. 1884.

14. "Odontoglossum crispum (Lindl.) var. Lehmanni Rchb.f." Gard. Chron. 20: 395-396. 1884.

15. Diels, *l. c.*

the United States National Herbarium; in addition, duplicate Lehmann specimens were received from Kew thus making the representation of his plants at Washington the most extensive in this country. Several other herbaria possess partial sets of Lehmann's plants: the New York Botanical Garden, for example, has 1854 numbers of his Colombian collections.